DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022200
Date Inspected: 22-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name:	See Below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☐ Yes ☑ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

CWI Inspectors: Mr. Zheng Hua, Mr. Wang Jun, Mr. Man-Kit Li

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

Segments 13E and 14E

This QA Inspector observed ZPMC welder Mr. Yang Junping, stencil 501946 used shielded metal arc welding procedure WPS-B-P-2114-FCM-1 to make OBG segment 14E welds SEG3019M-018 and 019. This QA Inspector observed a welding current of approximately 170 amperes (amps). This QA Inspector observed Mr. Yang Junping appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-089. This QA Inspector observed a welding current of approximately 180 amps the base materials were preheated with a torch

and Mr. Wang Zhengbin appeared to be certified to make this weld. This QA Inspector observed this 4G complete joint penetration weld along with three other similar weld joints #133, #155 and #177 (see below) did not have weld extension plate (run off tabs) on the end of the groove weld joints. This QA Inspector informed ABF CWI Mr. Man-Cat Li that these weld joints lack weld extension plates. All four welders stopped welding until weld extension plates were installed on the end of the groove welds. See the photographs below for additional information. Following installation of the weld extension plates, items observed on this date appeared to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-133. This QA Inspector observed a welding current of approximately 180 amps the base materials were preheated with a torch and Mr. Yang Yunfeng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhao Guanglin, stencil 044779 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-155. This QA Inspector observed a welding current of approximately 180 amps the base materials were preheated with a torch and Mr. Zhao Guanglin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kuai Wenshan, stencil 054013 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-177. This QA Inspector observed a welding current of approximately 170 amps the base materials were preheated with a torch and Mr. Kuai Wenshan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure specification WPS-B-T-2233-ESAB to make OBG segment 13BE weld OBE13K-025. This QA Inspector measured a welding current of approximately 230 amps and 24.0 volts. This QA Inspector observed the base materials were preheated with electrical heaters and Mr. Chen Chuanzong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Bian Henggui stencil 051359 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 13BE welds SEG3009V-014 and 015. This QA Inspector observed a welding current of approximately 170 amps. Items observed on this date appeared to generally comply with applicable contract documents.

Segments 13W and 14W

This QA Inspector observed ZPMC welder Mr. Li Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14W weld SA3416-001-042. This QA Inspector observed a welding current of approximately 240 amps and 26 volts and Mr. Li Xianyou appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Zichuan, stencil 205098 used shielded metal arc welding procedure WPS-B-P-2213-B-U2-FCM-1 to make OBG segment 13BW weld SEG3014J-008. This QA Inspector measured a welding current of approximately 160 amps and the base materials appear to have been preheated with an electric heater and Mr. Xu Zichuan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ge Hao, stencil 201583 used flux cored welding procedure specification WPS-B-T-2233-ESAB to make OBG segment 13CW weld SEG3015-008. This QA Inspector measured a welding current of approximately 180 amps and the base materials appear to have been preheated with an electric heater and Mr. Ge Hao appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

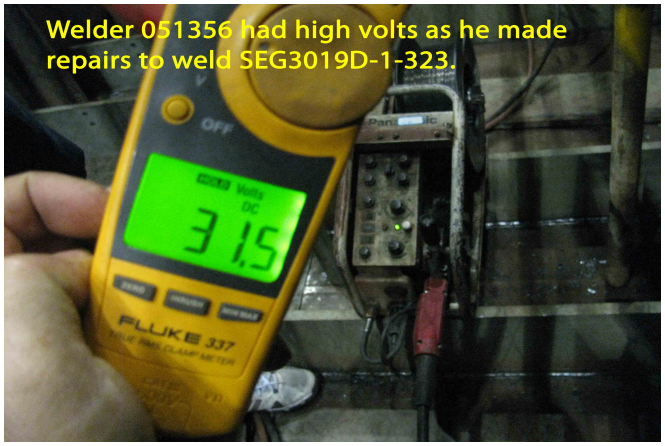
This QA Inspector observed ZPMC welder Mr. Pan Wei, stencil 218662 used shielded metal arc process to weld segment 14W temporary lifting eyes to deck plate DP3127A. This QA Inspector measured a welding current of approximately 180 amps and the base materials appear to have been preheated with a torch and Mr. Pan Wei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhaocong, stencil 068445 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13CW weld SA3232B-003. This QA Inspector observed a welding current of approximately 270 amps and 25 volts and Mr. Wang Zhaocong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jian Junlin, stencil 067876 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13CW weld SA3232B-002. This QA Inspector observed a welding current of approximately 240 amps and 24.5 volts and Mr. Mr. Jian Junlin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Lv Feng Bao, stencil 045175 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14W weld SEG3020AY-304. This QA Inspector measured a welding current of approximately 230 amps and 25.5 volts. Mr. Lv Feng Bao appeared to be certified to make this weld and the base materials were preheated with an electrical heater prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Linjiang stencil 051356 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14W repair weld SEG3019D-1-323. ZPMC QC informed this QA Inspector that critical weld repair document B-CWR-2677R3 documents this weld repair. This QA Inspector observed a welding current of approximately 300 amps and 31.5 volts and Mr. Wang Linjiang appeared to be certified to make his weld. This QA Inspector observed the maximum welding voltage listed in the welding procedure specification is 26.6 volts and Mr. Wang Linjiang had a welding current that was approximately 4.9 volts above this maximum limit. This QA Inspector showed ABF CWI Mr. Man-Kit Li the welding meter and he had the welding machine adjusted to have a voltage of approximately 26.0 volts. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Riley,Ken	QA Reviewer